



ANSWER SHEET



Arithmetic Quiz answers

Mild:

1	$4 + 11 = \square$	15
2	$21 + 16 = \square$	37
3	$\square - 5 = 8$	13
4	$24 \div 3 = \square$	8
5	$\square = \frac{1}{3}$ of 15	5
6	$45 + 39 = \square$	84
7	$375 + 4 = \square$	379
8	$27 + \square = 68$	41
9	$\square \times 4 = 24$	6
10	$\square = 641 - 300$	341
11	$120 \div \square = 40$	3
12	$63 - 25 = \square$	38
13	$\frac{3}{4}$ of 8 = $\square$	6
14	$\square = 4 \times 80$	320
15	$91 - 63 = \square$	28
16	$27 \times 3 = \square$	81
17	$36 + \square = 82$	46
18	$16 \times 5 = \square$	80

Medium and Spicy:

Question number	Question	Answer	Marks
1	$3 \times 3 = \square$	9	1
2	$\square = 12 \times 1$	12	1
3	$45 - \square = 25$	20	1
4	$3 \times 0 = \square$	0	1
5	$75 + 85 = \square$	160	1
6	$\square = 9 \times 11$	99	1
7	$\frac{5}{8} - \frac{2}{8} = \square$	$\frac{3}{8}$	1
8	$42 = \square \times 6$	7	1
9	$456 \div 1 = \square$	456	1
10	$356 - 178 = \square$	178	1
11	$\square \times 6 = 84$	14	1
12	$\square = \frac{3}{4}$ of 32	24	1
13	$405 - 237 = \square$	168	1
14	$76 \div 2 = \square$	38	1
15	$6396 + 2547 = \square$	8943	1
16	$360 \div 6 = \square$	60	1
17	$45 \times 3 = \square$	135	1
18	$\frac{1}{6} + \frac{5}{6} = \square$	$\frac{6}{6}$ or 1	1
19	$5830 - 3851 = \square$	1979	1
20	$\square - 1843 = 5421$	7264	1
21	$400 - 235 = \square$	165	1
22	$\frac{3}{8} + \frac{5}{8} = \square$	$\frac{11}{8}$ or $1\frac{3}{8}$	1

Monday - Identify Angles

Starter:

▲ A. $5 \times 7 = 35$	▲ B. $9 \times 12 = 108$
▲ C. $9 \div 3 = 3$	■ D. $9132 + 1584 = 10\ 716$
■ E. $56 \div 3 = 18\ r\ 2$	

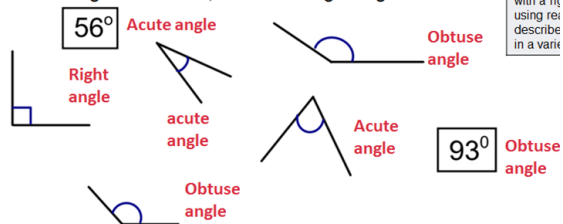
Mild

Right angles are **90** degrees.

Acute angles are **smaller** than right angles and are **less** than 90 degrees.

Obtuse angles are **larger** than right angles and are **greater** than 90 degrees.

Sort these angles into acute, obtuse and right angles.



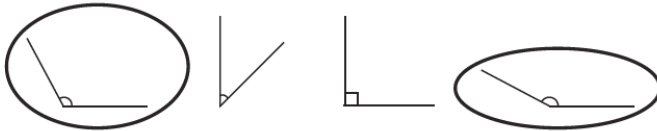
Mastery

I can identify acute angles with a right angle.

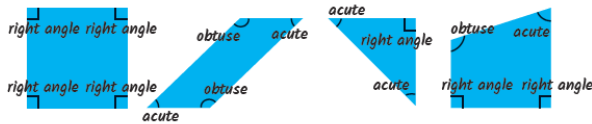
Greater

I can apply my knowledge of comparing acute angles with a right angle using real-life examples in a variety of contexts.

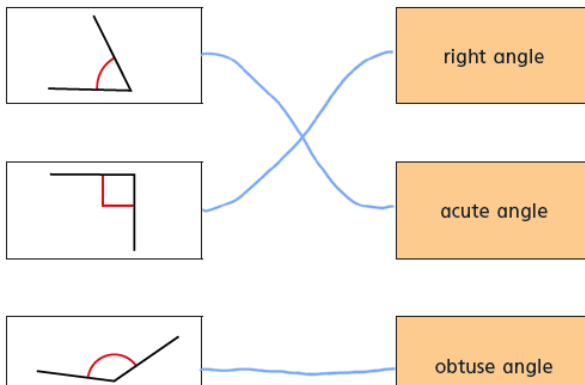
1) Circle the obtuse angles:



2) Look at these shapes. Label each of the interior angles as obtuse, acute or a right angle.

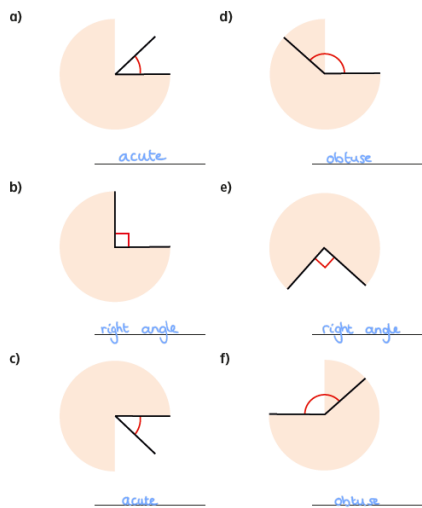


Match the angles to the labels.

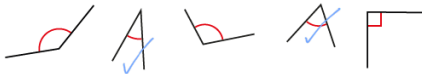


Medium

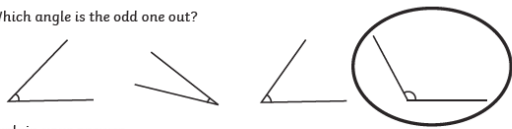
3 Label the angles: acute, obtuse or right angle.



4 Tick all the acute angles.



1) Which angle is the odd one out?



Explain your answer:

Children's own responses, such as: one is obtuse; one is more than a right angle; one is more than 90 degrees.

2) Romesh says, "A triangle can have two obtuse angles."

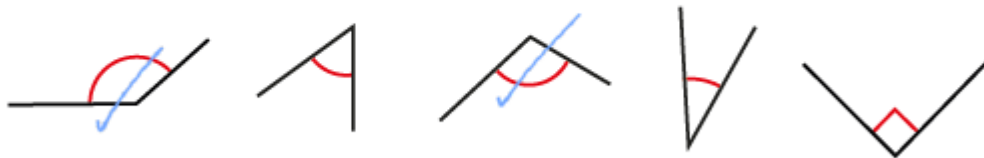
Is he correct? No.

Prove it!

Accept answers, drawn or written, which show an understanding that the shape would never be able to have closed sides if two angles are obtuse.

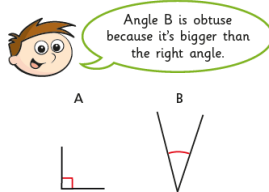
All are correct. Children may reason about how Jess has come to her answer and discuss that the angle is about half a right angle. Half of 90 degrees is 45 degrees.

5 Tick all the obtuse angles.



Spicy:

8



Do you agree with Teddy? No

Explain your answer.

9

Are the statements always true, sometimes true or never true?

Explain your answer.

a) An obtuse angle is a greater turn than an acute angle.

Always. Obtuse angles are greater than 90° therefore greater than acute angles which are less than 90°.

b) An acute angle is a greater turn than a right angle turn.

Never. Acute angles are less than 90° is less than a right angle.

c) If you turn through two acute angles you will have turned through an obtuse angle.

Sometimes. E.g. $10^\circ + 10^\circ = 20^\circ$ (acute) but $50^\circ + 50^\circ = 100^\circ$ (obtuse).

6

Label the angles: acute, obtuse or right angle.

a)



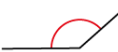
right angle

c)



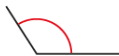
acute

b)



obtuse

d)



obtuse

The angle is a right angle.
Children may use an angle tester to prove it, or children may be able to draw an extra line to prove that it is a quarter turn which is the same as a right angle.

7

Is the angle acute, obtuse or a right angle?

a) 35° acute

d) 89° acute

b) 99° obtuse

e) 121° obtuse

c) 90° right angle

f) 179° obtuse

How do you know?

$$87^\circ + 98^\circ = 185^\circ$$

Challenge:

1. D
2. D
3. B

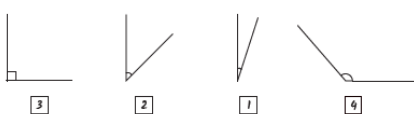
Tuesday - Angles Comparing and Ordering

Starter:

 A. $3 \times 2 \times 2 = 12$	 B. $85 \div 4 = 21 \text{ r } 1$
 C. $\frac{1}{5} + \frac{1}{10} = \frac{3}{10}$	 D. $7493 + 2428 = 9921$
 E. $144 \div 12 = 12$	

Mild:

1) Order these angles from smallest to largest by labelling them from 1-4.



2) Look at this shape and use < and > symbols to complete the statements below.

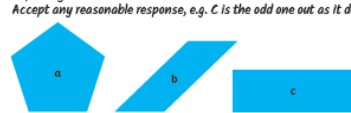


angle a angle c
angle b angle a
angle d angle a

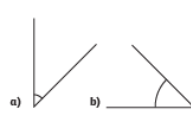
3) Label two of the angles in the shape above as either acute or obtuse.
Children may label b, c or d as acute and a as obtuse.

Medium:

1) Which of these shapes is the odd one out based on its angles?
Explain your answer.
Accept any reasonable response, e.g. C is the odd one out as it does not have any obtuse interior angles.



2) Tilly says, "Angle b is the largest."
Jaz says, "The angles are the same size."
Who do you agree with? Why?
Jaz. Tilly has seen that the angle arc is bigger, but it is just further from the angle. The angles are the same. Children may choose to measure the angles to check.



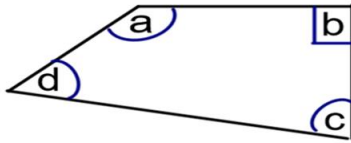
Circle the largest angle in each shape or diagram.



Can you label each angle as acute, obtuse or right angle?

Spicy:

Use your angle tester to check the angles in this shape.



Order the angles in the shape from smallest to largest. **c, d, b, a**

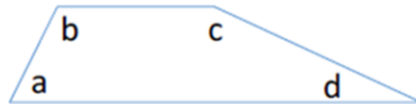
Write two facts about the angles in the shape.

Angles c and d are both acute angles.

Angle b is a right angle

Angle a is the biggest angle and is obtuse.

Order the angles in the shape from smallest to largest.
Complete the sentences.



Angle d is smaller than angle c.

Angle b is larger than angle a.

Angle e is the odd one out.

Angle b and c are both right angles.

Angle a and d are both half of a right angle 45 degrees.

Angle e is an obtuse angle.

Greatest to
smallest



08:15



Eight
o'clock



Twenty to
eleven

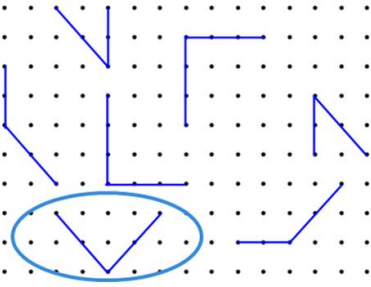


Five past
11

Evaluation:

Which one doesn't belong?

Here is a set of angles. Which angle is the odd one out? Prove it.



All the others have 2 that are the same. This one is the only acute angle of this size.

Wednesday: Triangles

Starter:



A. $\frac{1}{6} + \frac{1}{3} = \frac{3}{6}$ or $\frac{1}{2}$



B. $60 \div 3 = 20$



C. $56 \times 9 = 504$



D. $5321 + 79\ 003 = 84\ 324$



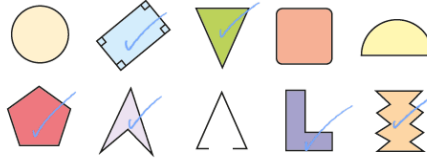
E. $45 \div 5 = 9$

Mild:

Place the shapes in the correct place in the Carroll Diagram.

	3 sides or less	more than 3 sides
has right angles		 
has no right angles	  	 

1 Here are some shapes.

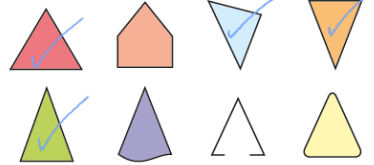


- Tick the polygons.
- Talk to a partner about the shapes you have not ticked. Why are they not polygons?
- Write a definition of a polygon.

A closed shape made up of straight
sides

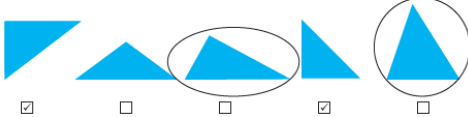
Compare your definition with a partner's.

2 Tick the triangles.



For any shapes you have not ticked, talk to a partner about why somebody might think they are triangles.

- 1) Circle any scalene triangles.
Tick any right-angled triangles.



- 2) Name the type of triangle you have not circled or ticked.
Isosceles

They both have three sides and three angles

The first is an equilateral

Medium:

3 Ron is classifying triangles.



This is an upside down triangle.



a) Ron is incorrect.

Explain why.

A triangle cannot be upside down.

b) What type of triangle is it?

equilateral

4 Annie is identifying shapes.



This shape has 3 sides, so it is a triangle.



Do you agree with Annie? No

Explain your answer.

A triangle has three straight sides this shape does not.

1) What are the differences between these two triangles?
One has a right angle; one has one side that is longer than the others; one has one side that is shorter than the others.

What is similar about them?
Both are isosceles triangles.



2) Tick the statements that are true:

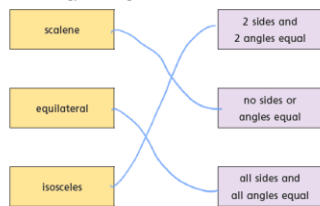
- ☒ A scalene triangle never has equal length sides.
- ☐ An isosceles triangle can never have a right angle.
- ☐ An isosceles triangle has three equal angles.
- ☒ An equilateral triangle has three equal length sides.

Choose one of your true statements and prove it!
Multiple answers possible.

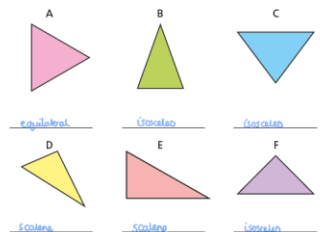
- | | | |
|-----------------|-----------------|----------------|
| a. Equilateral | f. Isosceles | k. equilateral |
| b. Scalene | g. Isosceles | l. equilateral |
| c. Isosceles | h. right angled | |
| d. scalene | i. Scalene | |
| e. Right Angled | j. Right angled | |

Spicy:

- 5 Match the type of triangle to the definition.

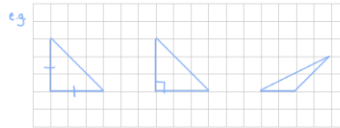


- 6 Label each triangle as either equilateral, isosceles or scalene. You will need to measure the side lengths.



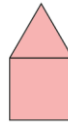
- 7 Draw each triangle in the grid.

a) isosceles b) right-angled c) scalene



Which triangle was hardest to draw?

- 8 The diagram shows an equilateral triangle and a square. The perimeter of the square is 100 cm. Work out the perimeter of the compound shape.



perimeter = 125 cm

- 1) Here is a 4cm line:



Use a pencil and a ruler to draw two more sides that would create an isosceles triangle. What are the lengths of your two new sides?

Multiple answers possible. Ensure that children's triangles have two equal sides and angles to within a reasonable degree of accuracy.

Without drawing two new sides, write the lengths of the two new sides needed to make an equilateral triangle. **4cm and 4cm**

- 2) Investigate: How many different isosceles triangles can you make where the lengths of the sides are whole numbers (not decimals) that total 12cm? Draw or make your triangles to prove it. **Only one triangle can be made, with one 2cm side and two equal sides of 5cm.**
- 3) The longest side of a triangle must be less than the other two sides added together. Investigate if this is always true. **True, the longest side of a triangle is always shorter than the other two sides added together.**

The perimeter of the triangle is 45 cm

Maisy is not correct. The length of the string will depend what sort of triangle can be made.

Children will draw a range of triangles. Get them to use a ruler to check their answers. Ask the children to compare their triangles – are all isosceles triangles and scalene triangles the same?

Thursday: Quadrilaterals

Starter:

Mild

1) Name and identify the properties of these quadrilaterals:

 Name: <i>parallelogram</i> Pairs of equal length sides: 2 Pairs of parallel sides: 2 Number of right angles: 0	 Name: <i>rectangle</i> Pairs of equal length sides: 2 Pairs of parallel sides: 2 Number of right angles: 4	 Name: <i>trapezium</i> Pairs of equal length sides: 1 Pairs of parallel sides: 1 Number of right angles: 0
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2) Draw a quadrilateral with these properties:

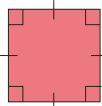
- two pairs of equal length sides
- no right angles
- not a parallelogram

What could your quadrilateral be?
kite

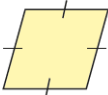
What quadrilaterals could you definitely not draw from this description?
square, rectangle, trapezium, parallelogram

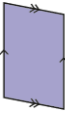
1 Use the word bank to label each quadrilateral.

rhombus parallelogram trapezium
rectangle square

a)  square

b)  rectangle

c)  rhombus

d)  parallelogram

e)  trapezium

Developing

- 1a. It has 4 right angles; it is a rectangle
- 2a. 4, 0
- 3a. Square
- 4a. a, b, c

Medium

3 Complete the table.

Shape	Polygon?	Number of sides	Number of right angles	Number of pairs of parallel sides	Number of equal sides
	Yes	4	4	2	2 pairs
	Yes	4	0	1	2
	Yes	4	0	2	2 pairs
	Yes	4	4	2	4
	Yes	4	0	2	4
	Yes	4	0	1	0

What is the same about all of the shapes?

What is different?

5a. It is a parallelogram; it has parallel lines; it has 4 sides

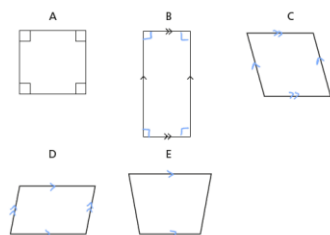
6a. 4, 0, 2

7a. Rhombus or parallelogram

8a. a, b, c, d, f

Greater Depth

2 Here are some quadrilaterals.



1) What do any of these shapes have in common?

Answers may include:

All have four sides and four vertices; the square and rectangle have two pairs of parallel sides and four right angles; the rectangle and kite have two pairs of equal length sides.

2) What is different about them?

Answers may include:

The kite only has one pair of equal angles; the trapezium has two pairs of equal angles; only two of the shapes have right angles.

3) Use isometric (dotted) paper to investigate how many quadrilaterals you can draw which have:

a) only one set of parallel lines;

Children may draw trapeziums.

b) no right angles;

Children may draw parallelograms, trapeziums, kites or any irregular quadrilateral fitting the description.

c) all sides of equal length.

Children may draw a square or a rhombus.

a) Mark any right angles on the shapes.

One shape has been done for you.

b) Mark any pairs of parallel lines.

One shape has been done for you.

c) Which shapes do not have any right angles?

C D E

d) Which shapes have two pairs of parallel lines?

A C D

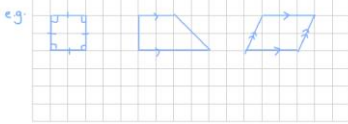
e) Which shapes have four equal sides?

A C

Spicy

4 Draw the shapes on the grid.

a) square b) trapezium c) parallelogram



5



This is a square because it has got 4 equal sides.



Do you agree with Rosie? No

Explain your answer.

6 Complete this Frayer Model to describe a quadrilateral.

My definition A closed shape with four straight sides.	Key characteristics closed shape 4 straight sides 4 vertices
Example 	Non-example

Greater Depth

9a. It has no right angles; it is a rhombus

10a. 2, 0, 2

11a. Rhombus

12a. a, b, c, d, f, g

7a. Various answers, for example:

Same: 4 sides; no right angles.

Different: amount of pairs of parallel sides; length of sides.

1) Bridie says:

I can draw a quadrilateral with only two right angles and three sides of equal length.

Find out if she is correct by drawing or making quadrilaterals to see if any fit her description.

Is she correct?

No

Can you explain why?

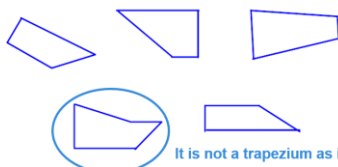
Accept answers which show that if a quadrilateral has only two right angles, it cannot have three sides of equal length.



Evaluation Odd One Out

Odd one out

Here is a group of quadrilaterals. Which one is the odd one out?



It is not a trapezium as it has 5 sides.

Mastery:

I can name and sketch quadrilaterals including square, rectangle, rhombus, parallelogram and trapezium, describing similarities and differences between them.

Greater Depth:

I can apply my knowledge of properties of shape when accurately drawing a variety of quadrilaterals, describing similarities and differences between quadrilaterals fluently.

Friday

Mild

A: Place Value, Add and Subtract		B: Multiply, Divide and Fractions		C: Measure and Geometry	
1. What is 100 more than this number? 247	347	11. $16 \div 8 =$	2	23. A cake weighs 2 kilograms. It is cut into 4 equal pieces. How many grams does each piece weigh?	500
2. What is the 8 worth in this number? 384	80 (tens)	12. $3 \times 4 =$	12		
3. Write < or > to make this correct: 694 294	>	13. $45 \times 4 =$	180	22. What is the perimeter of this regular pentagon?	20cm
4. Show 12°C on the thermometer.	Line or arrow	14. There are 3 girls for every 2 boys. If there are 15 girls, how many boys?	10		
5. Make the smallest number possible using the digits 4 1 and 3 .	134	15. What is one tenth of 5?	0.5	23. Ian turns through a full turn. How many degrees has he turned through?	360
6. $310 - 1 =$	309	16. Circle $\frac{1}{5}$ of the marbles.	2		
7. $792 - 538 =$	254	17. What is $\frac{4}{5}$ of 32?	20	24. Draw an angle that is bigger than a right angle.	Angle drawn
8. Circle the best estimate to $452 - 89$: 330 340 350 360	360	18. $\frac{1}{2} - \frac{2}{5}$	4		
9. A school has 650 tickets to sell for a play. They sell 478. How many left?	172	19. Add the fractions. $\frac{3}{8} + \frac{1}{2}$	$\frac{4}{8} + \frac{1}{2}$	25. Draw a pair of parallel lines.	Any pair of parallel lines
10. What is the missing number? $57 + \square - 23 = 95$	61	20. Write the largest fraction. $\frac{1}{5}$	$\frac{1}{5}$		
Total (A)		Total (B)		Total (C)	

Medium and Spicy

A: Place Value, Add and Subtract		B: Multiply, Divide and Fractions		C: Measure, Geometry and Statistics	
1. What is the missing number? 1,000 2,000 4,000 5,000	3,000	11. $9 \times 9 =$	81	21. How many millilitres are there in 2.15 litres?	2,150
2. What is the missing number? 200 225 250 275	300	12. Complete the sum that is equal to $4 \times 5 \times 18$: $20 \times \square$	18		
3. Round this number to the nearest 1,000: 3,192	3,000	13. $932 \times 4 =$	3,728	22. Tick (✓) the shape that has exactly 2 lines of symmetry.	Rectangle
4. What is 1,000 more than 6,394?	7,394	14. To work out 4×55 you could do: $50 \times \square + \square \times 4$	4, 5		
5. If the temperature starts at 5°C, then drops by 9°C, what is it now?	-4	15. $\frac{3}{5} - \frac{7}{10}$	8	23. Complete this shape:	Lines drawn
6. What is the value of the 8 in this number? 6,283	80	16. What is the missing number? 9.96 9.97 9.98 9.99	10(.00)		
7. Write the number 74 in Roman numerals.	LXXIV	17. $\frac{2}{5} - \frac{4}{10}$	$\frac{6}{5}$	24. Number of tyres sold by a garage one weekend:	Pictogram drawn
8. $4,115 + 1,472 =$	2,643	18. Write 0.8 as a fraction.	$\frac{8}{10}$		
9. Estimate the answer to: $15,507 + 4,489$	20,000	19. $293 \div 10 =$	29.3		
10. From 300 tickets, pupils buy 89 & parents buy 184. How many are left?	27	20. Using £20 Rob buys a DVD for £6 and a CD for £6.95. How much left?	£7.05		
				Key: = 4 tyres Saturday: Sunday: 13 were sold on Sunday. Show this. 25. How many tyres were sold in total over the weekend?	
				31	